

Project Title

Reduce waiting time during Intravesical therapy in Urology Clinic

Project Lead and Members

Project Lead: Ma Victoria Dela Cruz Gonzalves

Project Members: Zhang Xin, Elizabeth Khoo Bao Lin, Chan Chin Yong, Lim Wanrong, A/Prof
Lee Lui Shiong

Organisation(s) Involved

Sengkang General Hospital

Healthcare Family Group(s) Involved in this Project

Medical, Pharmacy

Applicable Specialty or Discipline

Urology, Pathology, Pharmacology

Project Period

Start date: Jan 2022

Completed date: Jun 2022

Aims

Reduce patient's waiting time in SKH clinic during Intravesical therapy in Urology clinic by 50% in 4-month time

- Reduction in overall long-time waiting of patients during intravesical BCG
- Reduction in long-time waiting for urine dipstick result which results to delay in collection of BCG from pharmacy
- Reduction in the delay in administration of BCG due to extended workflows

Background

See poster appended/ below.

Methods

See poster appended/ below

Results

See poster appended/ below

Lessons Learnt

1. Streamlining of work processes can be achieved by working with relevant stakeholders.
2. In depth discussion with relevant stakeholders such as billing and careful handling of the BCG and returning process was done.
3. We have done careful assessment of change needed in every journey without causing unnecessary work to nurses and other stakeholders until we found the best solution.

The implementation we have proposed were so far effective and efficient.

Conclusion

This project resulted to a great impact and have achieved best hospital experience and clinical outcomes for patient's undergoing Intravesical BCG therapy The result may also give an impact to the current practices to other institutions in Singapore giving BCG therapy. Doing Quality improvement project is about challenging the norm. One should be prepared for the many challenges and resistance along the way but the result is worthwhile. Handwork and support from significant leaders and expert colleagues are vital part to achieve the goal.

Project Category

Care & Process Redesign, Value Based Care, Productivity, Time Saving, Cost Saving, Quality Improvement, Clinical Practice Improvement, Workflow Redesign, Patient Satisfaction

Keywords

Intravesical Bacillus Calmette- Guerin (BCG), Intravesical Immunotherapy, Urine Dipstick, Home Post Instillation (HPI)

Name and Email of Project Contact Person(s)

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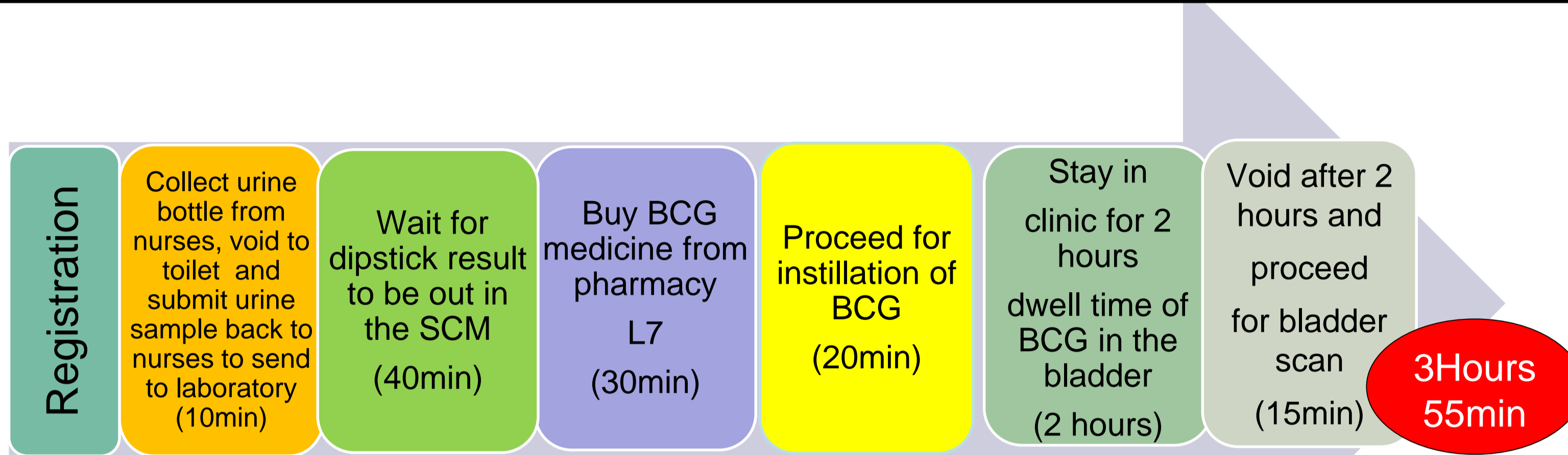
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Background

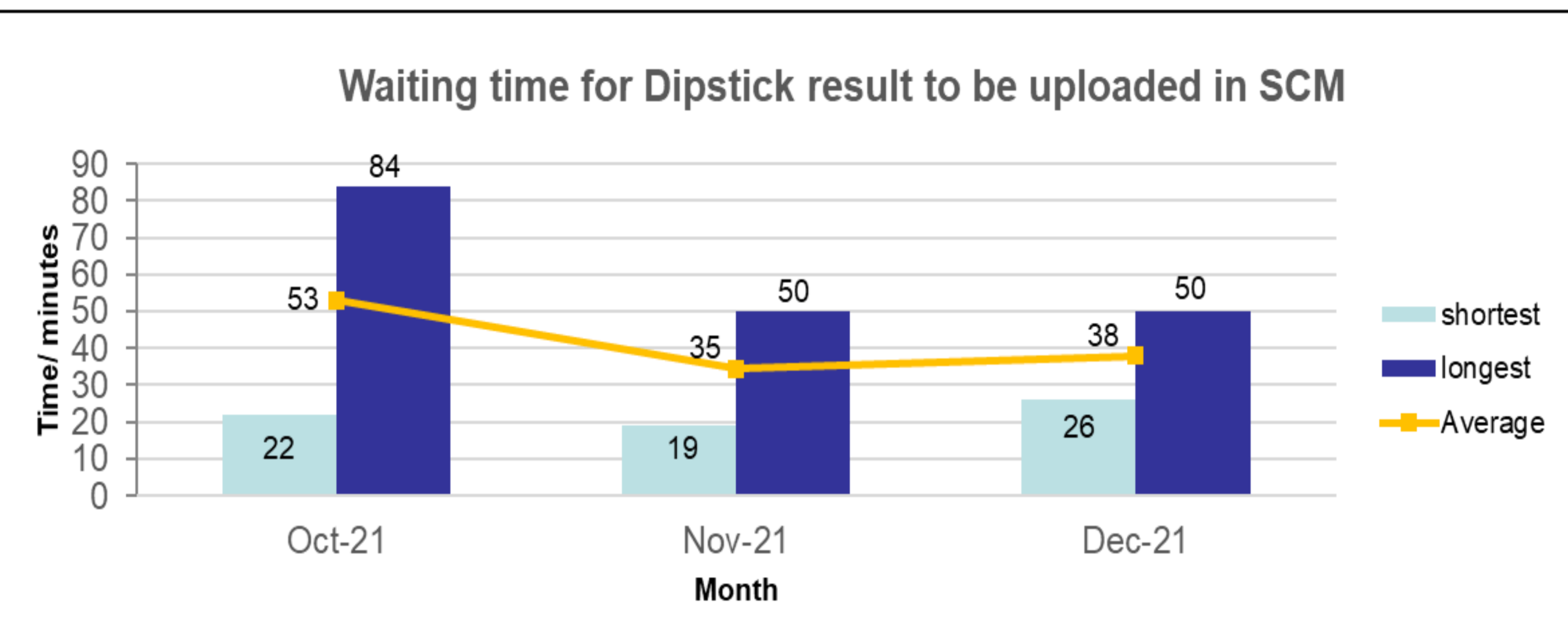
Intravesical Bacillus Calmette- Guerin (BCG) is the most common intravesical immunotherapy indicated for treating patient with superficial bladder cancer. Intravesical is a method in which a medication is instilled in the bladder through a urinary catheter. BCG works to prevent cancer from returning following a bladder tumor resection. BCG is known to affect the cell in the bladder resulting to minor side effects such a low grade fever, urinary urgency, increased urinary frequency and presence of small amount of blood in the urine which could last up to 48 hours following instillation and generally SKH patients have undergone the Intravesical BCG immunotherapy without severe complications.

The average number of patients scheduled for BCG per week is 4 per week. Currently, total duration of the journey from the time of registration to discharge is approximately 3 hours and 55 minutes. This project was embarked to reduce the patient's waiting time during BCG therapy in urology clinic. This project aimed to shorten the journey of patient's waiting time during BCG therapy session. Prospective data were collected from every step of the journey to understand and improve patient's experience.

Current State



Current workflow shows the timing of each journey spent by patient undergoing Intravesical BCG therapy. The whole journey of 3 hours and 55 minutes of patient's waiting time in clinic, increases anxiousness, inconvenience and unnecessary exposure in the clinic environment. Retrospective data shows no significant post void residual urine (PVRU) result among all patient undergone BCG instillation.



A baseline study of the waiting time for urine dipstick result to be uploaded in SCM is shown above. The rest of the process durations are expected and do not vary as much as the wait for Dipstick result

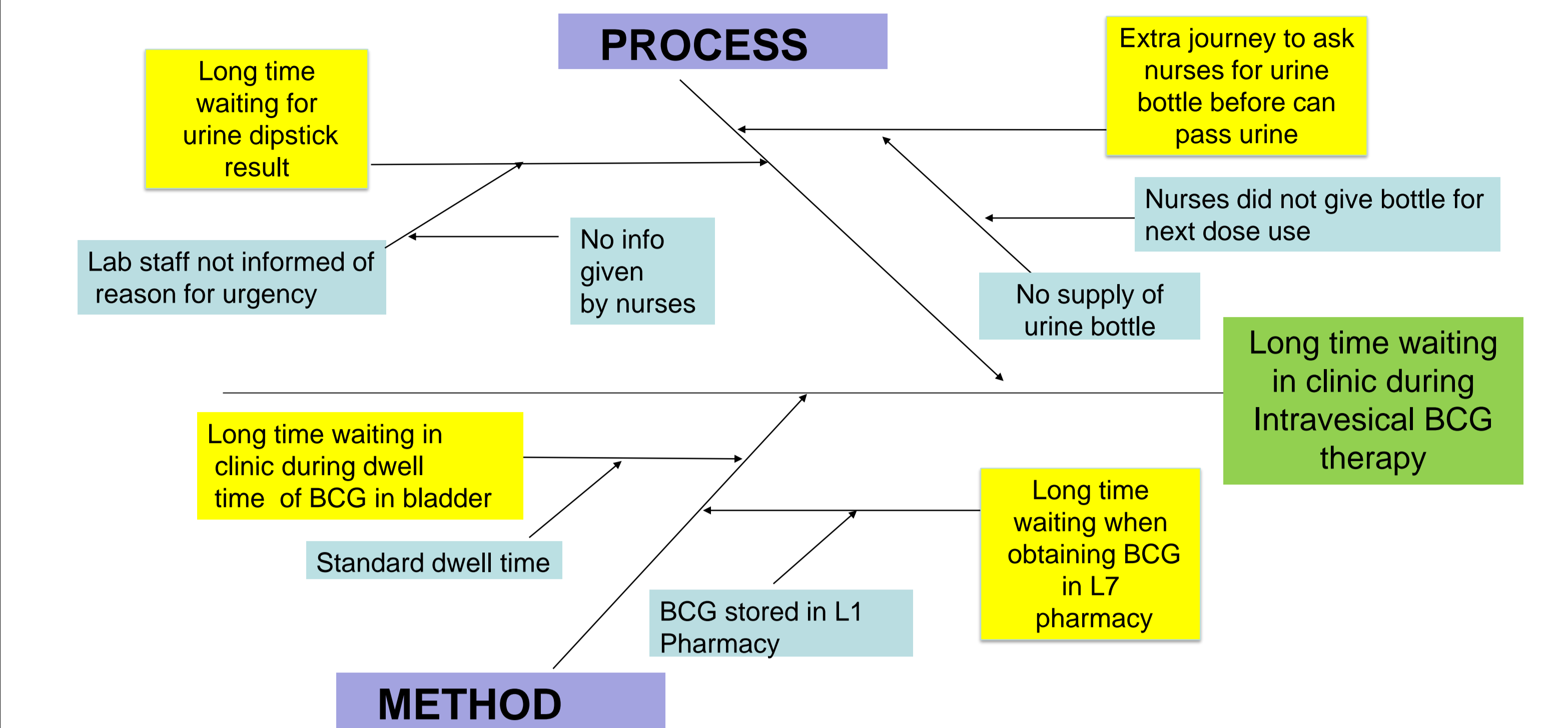
Goals / Targets

Reduce patient's waiting time in SKH clinic during Intravesical therapy in Urology clinic by 50% in 4-month time

Interventions / Initiatives

- Set of urine specimen bottles issued to patients scheduled for BCG. The patient now can directly void in toilet after the registration and submit the specimen to nurses for sending to laboratory.
- This intervention saved 50% of the time.
- Collaborative partnership with laboratory staff to expedite the processing of urine dipstick test was taken place.
- Memo will be attached with the specimen bag to inform the laboratory staff to hasten the testing process.
- Discussion with Pharmacist at MC level 7 to allow return of unused BCG to pharmacy if patient was unsuitable for clinical reason.
- With this agreed intervention, patient is able to wait for dipstick result and buy BCG medicine concurrently.
- Discussion with Urologist with regards to the possibility of sending patient home after instillation.
- Patients shall be home within 20 minutes, first void to be done at home strictly and to be contactable for a follow up call by the Specialty nurse.
- A 3-month pilot study showed zero recall or complication post instillation.
- Follow up call 2 hours post instillation is done to ensure patient has voided and ascertain no complication.

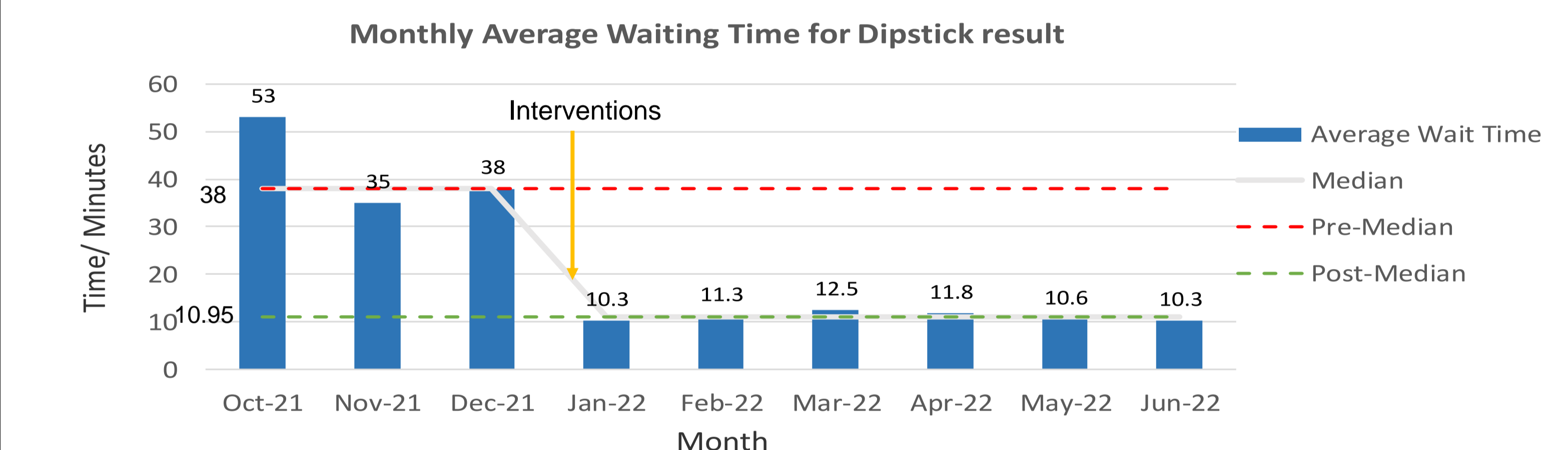
Root Cause Analysis



Implementation Plan

S/N	Implementation Plan	Responsible	Date
1.	Giving out urine specimen bottles to patients scheduled for BCG.	ANC Zhang Xin, SSN Elizabeth	Jan 2022
2.	Memo attached to specimen bag when sending urine sample for urine dipstick test	ANC Zhang Xin, SSN Elizabeth Khoo, Ms Lim Wanrong	Jan 2022
3.	Return of unused BCG to Pharmacy	Mr Chan Chin Yong, NC Victoria	Feb 2022
3.	Home post instillation trial	A/Prof Lee Lui Shiong, NC Victoria	Jan – Mar 2022
4.	2-hours follow up call post BCG instillation	NC Victoria, SSN Elizabeth Khoo	Jan – Mar 2022

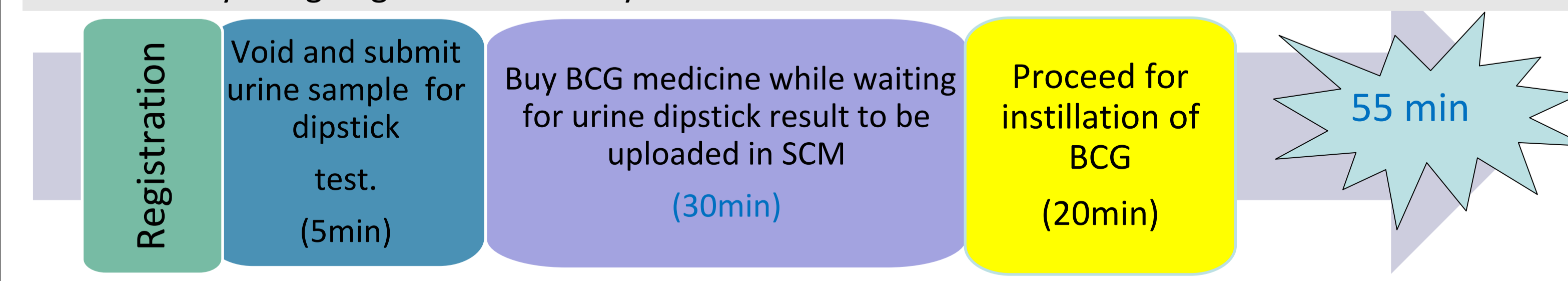
Results / Follow up



A significant drop in the median waiting time for the dipstick result, from 38mins to 10.95mins, was observed after the intervention. In post-intervention feedback, 100% of patients were satisfied and felt positive about the experience. Patients expressed that they feel motivated to come for treatment as the enhanced workflow are straightforward and not tiresome. Resting at home while fulfilling the allotted dwell time gives them more freedom to move around and divert their attention to other activities. This experience gave them increased morale and less anxious. Nurses in Level 7 Urology clinic also expressed satisfaction in the new workflow as it enabled free time to perform other patient-related clinical duties instead of monitoring waiting patients post BCG.

Manpower hour saved	Patient's cost saved
15min- time saved from performing ultrasound bladder	<u>Simple ultrasound (Bladder)</u>
15min- time saved from checking on patient during 2 hours dwelling period	Private rate: \$44.59
	44.59 x 5= 222.95 (if come for 6 doses)
	44.49 x2 = 89.18 (if come for 3 doses)x 3 cycles
Average patient x4 during BCG clinic day (once in a week) = (15+15) x 4= 120mins / 2hours	Total savings: \$490.49 (for 1 complete therapy)
No. of hours saved per year = 2hours X 52 weeks =104 hours	Subsidized rate: \$17.15
Cost-Saving total = 104 hours X \$72/hour = \$7,488 per year	17.15 x 5= 85.75 (if come for 6 doses)
	17.15 x 2= 34.39 (if come for 3 doses) x 3 cycles= 103.17
	Total savings: \$188.92 (for 1 complete therapy)

Nurses saved 120min when the patient proceed to go home right after the instillation and patient's cost saved by not going for unnecessary bladder scan.



Post implementation, the waiting time has significantly reduced as shown in the new workflow above

Overall, 77% reduction in waiting time for patient undergoing Intravesical BCG therapy was achieved resulting in more relaxed and controlled session. This project significantly achieved the goal of giving patient's best hospital experience and best clinical outcome by increasing their compliance to complete the bladder treatment with the new enhanced and more efficient work process. The new workflow was disseminated to all the staff in Urology clinic and reference guide on workflow was posted in the consult rooms, procedure rooms and BCG procedure room. Random audit check is ongoing to ensure that new workflow is followed. Project team will continue to monitor patients under HPI (Home post instillation). This initiative can be also adopted in other institution providing Intravesical therapy.